Community stroke knowledge: a new information strategy using a joint project of the public health service and the hairdressers' guild of the Wesel district

Leifeld, Thomas; Rau, Ruediger; Mensing, Monika

Empfohlene Zitierung / Suggested Citation:
Leifeld, T., Rau, R., & Mensing, M. (2009). Community stroke knowledge: a new information strategy using a joint project of the public health service and the hairdressers' guild of the Wesel district. *Journal of Public Health*, *17*(6), 371-376. https://doi.org/10.1007/s10389-009-0253-x

J Public Health (2009) 17:371–376
DOI 10.1007/s10389-009-0253-x

ORIGINAL ARTICLE

Community stroke knowledge: a new information strategy using a joint project of the public health service and the hairdressers' guild of the Wesel district

Thomas Leifeld · Ruediger Rau · Monika Mensing

Received: 21 October 2008 / Accepted: 2 February 2009 / Published online: 24 February 2009

Abstract
Objectives The public health programme "Healthy Lower Rhine…against Stroke" is aimed at improving the population's knowledge about stroke and thus at reducing the prehospital phase in patients with suspected stroke. First evaluation results indicate that apart from providing information through the mass media, there is an urgent need to further develop the face-to-face communication approach. This has to be achieved by efficient but also effective means, given that financial and personnel resources are scarce.
Study design In cooperation with lögd Bielefeld, the Lower Health Authority of the Wesel District (health department) developed a postcard-sized quiz card containing exclusively correct answers on the issue of stroke, risk factors as well as symptom and action knowledge. For face-to-face communication, the hairdressers could be convinced to be included in the project. The hairdressers posed the corresponding questions and marked those answers of the clients that were identical with the quiz card answers with a cross. Answers not given by the clients were read out loud to them by the hairdressers, who were thus "styling up" the knowledge of their clients. To increase participation in the project, prizes were offered for the hairdressers with the most filled-in quiz cards as well as for three of the participating clients (drawing of prizes 1–3). More than 380 hairdressers in the Wesel district were sent a letter inviting them to participate as facilitators in this project, which is probably the first of its kind worldwide.
Methods The machine-readable quiz cards were collected and statistically evaluated including data regarding age and gender of the participants. Results were to be presented in the form of a descriptive statistic.
Results Thirty-three hairdressers from 12 cities and municipalities of the Wesel district participated in this joint action of the Wesel district Department of Health and the Wesel hairdressers' guild, dealing with the monitoring and imparting of basic knowledge on the issue of stroke. Almost 2,000 clients were interviewed by the participating hairdressers, and knowledge gaps were closed by information read out to them.
Discussion This innovative approach of imparting knowledge can be regarded as the model of an effective and economical way of communicating health information to the broader public.

Keywords Stroke prevention · "Healthy Lower Rhine…against Stroke" · Hairdressers imparting health information

This paper describes a new approach to cost-effective health information and communication in public health practice.

T. Leifeld · R. Rau (✉)
District of Wesel, Department of Health,
Department of Health (Fachbereich Gesundheitswesen),
District of Wesel,
Muehlenstr. 9-11,
D-47441 Moers, Germany
e-mail: ruediger.rau@kreis-wesel.de

M. Mensing
Institute of Health and Work NRW (LIGA),
Bielefeld, Germany

Introduction

At the beginning of the Public Health Programme "Healthy Lower Rhine…against Stroke" in May 2003, the priority issues of

- improving the population's knowledge about symptoms
- improving the population's knowledge about appropriate action as well as
- reducing the prehospital phase

were unanimously defined as the most important objectives of the campaign (Rau and Rumpeltin 2003). Another objective is deepening the population's knowledge about risk factors. The programme is supported by the Healthy Lower Rhine Network, an association of branch offices of the Local Health Conferences (LHC) of six neighbouring municipalities. These include the cities of Düsseldorf, Krefeld, Möchengladbach as well as the Rhein-Kreis-Neuss, Viersen and Wesel districts. Under the Public Health Service Act in North Rhine-Westphalia (NRW), in 1998 all 54 districts and urban districts were commissioned with the task of setting up Local Health Conferences and corresponding branch offices (Murza et al. 2005). In this way, NRW has created a new instrument for the implementation of modern public health tasks—"New Public Health"—such as, for example, local health planning, coordination and reporting (Brand et al. 2003).

Recent evaluation results of the "Healthy Lower Rhine… against Stroke" programme from Düsseldorf have however shown that despite isolated improvements in knowledge about appropriate actions, the population still has considerable deficits in knowledge about risk, stroke symptoms and appropriate actions (Pfeiffer et al. 2006). Thus, the objective of clearly reducing the prehospital period in patients with suspected stroke diagnosis could not yet be achieved in the reference region of the Wesel district (Rau et al. 2008).

Main idea

How could these items be communicated in greater detail to a broad public, particularly in a large rural district? This could only be achieved in locations where a great number of people could be addressed both in terms of place and time. Against the background of scarce financial and staff resources of public authorities in general and tight budgets of the branch offices of the Local Public Health Conferences in particular, communication with the broad public–from the authors' point of view—had to be carried out with economical, but also effective means. The most important objective of the programme hence was to convey complex stroke information about risk factors, symptoms or warning signs and about the correct emergency behaviour (emergency call 112) in a most effective and economical way. Thus, the "Hairdressers' Project" planned and carried out in 2006 in the Wesel district was conceived as a further element of the more comprehensive "Healthy Lower Rhine…against Stroke" campaign, involving primarily the Wesel district (Rau and Rumpeltin 2003).

Methods

As a first step, the health department of the Wesel district conceived a project in collaboration with the hairdressers' guild called "We style up your (stroke) knowledge!"

Secondly, in cooperation with the Institute of Public Health NRW (lögd), the Lower Health Authority of the Wesel district (department of health) developed an attractively designed quiz card of postcard size containing exclusively correct answers to short and simple questions on the issue of stroke as well as knowledge about risk factors, symptoms and action. For face-to-face communication, the hairdresser trade was included in the project. Hairdressing salons still serve as a centre for communication and discussion. Hardly any other trade offers similar opportunities for directly and intensively getting into contact with so many people. The hairdressers posed the corresponding questions and marked the clients' answers that matched the predefined answers with a cross. Answers that had not been given by the clients were subsequently read out to them by the hairdressers, who were thus "styling up" the knowledge of their clients in the literal sense of the words. In its instruction given in writing to the hairdressers by the Lower Health Authority of the Wesel district, they were explicitly asked to read out the answers to their clients in order to avoid a client's possible impression of receiving health counselling from a hairdresser. From a retrospective point of view, this procedure has not led to any conflicts. To motivate as many clients as possible to take part in the project, the three hairdressers with the highest number of marked quiz cards as well as three of the participating clients (drawing places 1–3) could win prizes. The clients' chances of winning did not depend on the number of correct answers given. Three hundred eighty hairdressers from the Wesel district were invited to participate as facilitators in this project that is probably unique worldwide. Together with their clients, they could enter into a competition for a candlelight dinner, spa days and spa weeks, each for two persons. In addition to 100 quiz cards per hairdressing salon, flyers with important stroke information (in German and Turkish) as well as a big poster for hanging up in the salons were enclosed with the invitation to participate in the project. For almost all prizes suitable sponsors could be found, which was very much in the spirit of the low-budget design of the project. A benefit for the participating hairdressers was that they could completely update their clients' record cards from the filled-in quiz cards.

Table 1 Frequency with which individual risk factors of stroke were mentioned

Stroke prevention in hairdressing salons in the district of Wesel "We style up your knowledge" (October 2006)

N=1,743, multiple answers possible, all data in %

Risk factor		Sex		Age by categories					
	Total	Male	Female	<40	40-49	50-59	60-69	70-79	80+
Hypertension	96.6	96.4	96.7	95.9	95.8	96.2	98.1	97.4	98.9
Obesity	99.2	100.0	99.0	99.0	99.4	99.4	99.7	99.1	97.8
Old age	35.1	44.3	33.2	31.7	31.0	30.0	35.5	45.4	99.1
Lack of physical activity	88.5	90.8	88.0	87.4	87.0	88.2	89.2	92.2	47.4
Diabetes	90.0	91.5	89.6	91.8	92.2	87.5	88.0	90.9	87.8
Already suffered stroke	41.7	50.2	39.8	44.3	40.7	39.0	37.0	47.8	45.6

Table 2 Frequency with which individual symptoms of stroke were mentioned

Symptom	Total	Sex		Age by categories					
		Male	Female	<40	40-49	50-59	60-69	70-79	80+
Weakness/paralysis	97.7	97.0	97.9	97.6	97.3	98.4	96.9	98.7	97.7
Unconsciousness	41.6	46.9	40.5	33.9	37.3	40.9	42.0	57.8	54.4
Hanging corner of the mouth	96.4	98.0	96.4	96.9	97.6	98.4	94.8	94.8	93.3
Vertigo, gait disturbance	43.0	52.1	41.1	32.2	35.2	40.9	46.9	65.2	64.4
Difficulty of speaking	97.0	96.1	97.1	95.9	98.8	98.4	96.6	95.7	96.7
Impaired vision	93.3	94.1	93.1	92.0	94.9	94.9	92.3	93.9	91.1

Stroke prevention in hairdressing salons in the district of Wesel "We style up your knowledge" (October 2006)

N=1,743, multiple answers possible, all data in %

Table 3 Number of mentioned risk factors and stroke symptoms

		Total	Sex		Age by categories					
			Male	Female	<40	40-49	50-59	60-69	70-79	80+
Number of risk factors mentioned	0	0.5	0.0	0.6	0.7	0.0	0.0	0.3	0.0	2.2
	1	0.1	0.3	0.1	0.0	0.0	0.0	0.6	0.0	0.0
	2	1.9	0.7	2.2	0.5	1.8	2.6	2.8	2.2	2.2
	3	6.9	4.6	7.4	5.8	7.2	10.2	7.4	5.7	2.2
	4	51.2	45.9	52.3	56.4	56.6	52.1	49.1	39.6	35.6
	5	15.5	17.0	15.2	14.0	12.0	14.7	16.4	20.4	26.7
	6	23.9	31.5	22.3	22.5	22.3	20.4	23.5	32.2	31.1
Number of symptoms mentioned	0	0.6	0.0	0.7	0.7	0.3	0.0	0.3	0.9	2.2
	1	0.7	1.0	0.6	0.7	0.3	0.0	1.5	0.9	1.1
	2	1.1	0.7	1.2	0.7	0.9	1.3	1.9	0.0	2.2
	3	3.7	3.3	3.8	4.4	4.5	2.2	4.6	3.9	0.0
	4	47.6	42.0	48.7	55.9	52.1	50.5	45.4	29.1	33.3
	5	14.0	14.4	13.9	16.5	14.5	15.3	9.3	15.2	10.0
	6	32.4	38.7	31.0	21.1	27.4	30.7	37.0	50.0	51.1

Stroke prevention in hairdressing salons in the district of Wesel "We style up your knowledge" (October 2006)

N=1,743, all data in %

The overall costs (without personnel costs and costs for printing the brochures provided by a sponsor prior to the start of the project) of this low-budget project amounted to 2,366 €, which were mainly paid by the public health service of the Wesel district administration and the Institute of Public Health NRW in Bielefeld. Thus, the costs for each filled-in quiz card amounted to no more than 1.36 €.

The filled-in and returned quiz cards were centrally evaluated by lögd Bielefeld. Age, gender and knowledge about the existing risks, symptoms and action about the issue of stroke were descriptively analysed.

The district of Wesel is located in the Lower Rhine area close to the border with The Netherlands (Rhine-Waal Euregio) in northwest North Rhine-Westphalia (NRW). An area of about 1,042 km2 is inhabited by about 490,000 people in a predominantly rural district. It comprises the cities of **Dinslaken**, Hamminkeln, Kamp-Lintfort, **Moers**, Neukirchen-Vluyn, Rheinberg, Voerde, **Wesel** and Xanten as well the municipalities of Alpen, Hünxe, Schermbeck and Sonsbeck (the cities in bold letters account for about 50% of the population).

Results

Thirty-three hairdressers (about 8.5%) from 12 of 13 cities and municipalities of the Wesel district participated in the joint action of the Wesel district, department of health, and of Wesel's hairdressers' guild, dealing with the monitoring and imparting of basic knowledge about stroke. A total of 1,743 clients were interested and interviewed by motivated hairdressers with the help of the quiz cards. Deficits in basic knowledge were compensated by the pre-defined answers (Tables 1, 2, 3, and 4). Most hairdressers participating in the project came from the district town of Wesel (10), followed by hairdressers from the town of Voerde (5). None of the hairdressers from the municipality of Hünxe participated in the project.

Discussion

This paper describes the concept, implementation and results of a social marketing project carried out jointly by the public health service and the local hairdressers.

For more than 40 years, social marketing concepts in the public health sector have been intended to ensure that as many people as possible are provided with all the information required for them to make the right health decisions. Health promotion issues today are quite naturally communicated via a broad range of media, including various print media as well as radio, television and cinema. The mass media is one of the most important instruments and key players in health promotion just because it is able to reach a vast number of people at the same time (Naidoo and Wills 2003; Pott 2003). So, for example, 90% of all Americans are informed about AIDs, thanks to the mass communication-oriented campaign to inform people about the risks of the disease (Kotler and Roberto 1989). Global thinking is however no substitute for local action measures. This is also revealed by the AIDs campaign. Despite widespread knowledge about the disease, in the 1980s most Americans neither knew about the exact characteristics or development of the HIV or AIDs infection, nor were they familiar with the required precaution measures.

Since mass communication channels and face-to-face communication support each other, they must be jointly used to achieve corresponding synergies in the population (Kotler and Roberto 1989). Direct changes in the behaviour or desirable knowledge standards within a specific target group can not realistically be expected from a mass media campaign. Mass media can, however, be used as an element

Table 4 Demographic distribution of interviewed clients

		Sex		
		Male	Female	Total
Age by categories	<40	97	316	413
		23.5%	76.5%	100.0%
		31.8%	22.0%	23.7%
	40-49	63	269	332
		19.0%	81.0%	100.0%
		20.7%	18.7%	19.0%
	50-59	54	259	313
		17.3%	82.7%	100.0%
		17.7%	18.0%	18.0%
	60-69	45	279	324
		13.9%	86.1%	100.0%
		14.8%	19.4%	18.6%
	70-79	38	192	230
		16.5%	83.5%	100.0%
		12.5%	13.4%	13.2%
	80+	6	84	90
		6.7%	93.3%	100.0%
		2.0%	5.8%	5.2%
	No answer	2	39	41
		4.9%	95.1%	100.0%
		Sex		
		0.7%	2.7%	2.4%
	Total	305	1438	1743
		17.5%	82.5%	100.0%
		100.0%	100.0%	100.0%

Stroke prevention in hairdressing salons in the district of Wesel "We style up your knowledge" (October 2006)

N=1,743

of the marketing mix to provide a framework that should then be filled with a direct communication approach with the population (Naidoo and Wills 2003; Pott 2003). The mass media helps to create an atmosphere that fosters curiosity and raises the people's awareness so that they want further detailed information on a defined public health problem. From the authors' point of view, the issue of "Stroke–an Emergency" is a special "marketing" challenge because of the multitude of completely different warning signs and symptoms. Stroke symptoms, moreover, mostly occur without pains so that, unlike acute cardiac infarction, for example, the patients or their relatives are not in a position to immediately recognise and comprehend the urgency and risks of the situation.

Up to now, this innovative method, as described in this contribution, of disseminating vital basic knowledge on the issue of stroke has not yet been employed worldwide or at least not been published. According to what the authors know, a hairdressing salon has only once been used for the dissemination of health information in the "Dallas Heart Study". In December 2003, a press release announced that in two hairdressing salons in Dallas, the issue of high blood pressure had been dealt with (Hess et al. 2007).

In 2001, a US study was moreover carried out on the use of beauty salons for the "North Carolina BEAUTY and Health Project" (Linnan et al. 2001; Solomon et al. 2004). It recommended partnership-based cooperation between the health sector and the cosmetics industry for health promotion projects.

Which further considerations led to hairdressers agreeing to be facilitators for a public health programme in the Wesel district? Hairdressing salons can be found in all cities and communities. A large part of the population regularly goes to hairdressers where in general a certain amount of time is spent and the clients' willingness to communicate can in general be taken for granted. A hairdressing salon still is the central location for an exchange of ideas and for animated discussions. With the help of correspondingly designed quiz cards, these facts were used to minimise the population's knowledge deficits about stroke symptoms, risk factors and appropriate action identified in a representative telephone survey in 2002 in the Wesel district (Rau et al. 2002). It could be assumed that at least one further person (family member, partner, etc., of the interviewed clients) was reached by the conveyed information. Due to the limited resources available for health policy measures at the regional level, the responsible project actors had to try to develop the most effective and economical communication channels. The "hairdressers' project" was an innovative model for addressing people in an effective as well as economical way.

How should the results of the project be evaluated? When looking at the socio-demographic data, the dissymmetrical distribution of the participants by gender is immediately noticed: 17.5% male participants compared to 82.5% female participants. No specific characteristics were noticed for the age distribution of the 1,743 participants. The frequency with which stroke risk factors and warning signs were mentioned in the present study should not be equated with an objective survey on the state of knowledge in the population. With more than 90% each, the mentioned warning signs, such as paralysis, impaired

Fig. 1 Stroke quiz card of the Wesel district

speech or vision, were considerably more often mentioned than during representative knowledge surveys, for example, in the 2002 telephone survey in the district of Wesel or in 2000 in Düsseldorf (Pfeiffer et al. 2006; Rau et al. 2002) (Fig. 1).

On the one hand, the group of participants, both the clients as well as participating hairdressers, cannot be compared to a representative sample size. On the other hand, it has to be assumed that some hairdressers have supported their clients in the interview by improving their answers on the quiz cards. From the point of view of the authors, these speculations on selection bias and similar questions of how to implement a survey are not primarily to be discussed here. The primary objective of the project was the effective and economical communication of complex health information by addressing people personally in an innovative setting. Thus, the didactical concern and methodology are the most important aspects of this paper. The data given in the results part of this paper document that the above-mentioned ambitions have to a large extent been achieved.

With the help of this project, a practicable and economical approach of communicating complex health information to the general population could be realized. The background of and motivation for this pilot study were the questions of how the individual can be effectively addressed on primary and secondary prevention and how a method of approaching the problem can be established. In this context, the most important question is no longer whether health is a private or public concern. Instead, which answers public health can give to the above-mentioned problem should be analysed. An effective way of addressing people is the most important step that determines whether a campaign will be fruitful and health-relevant messages will reach those target groups for which a lack of specific health information has been identified or assumed. Where can target groups hence be specifically addressed? Where and how is information provided in a useful way? Where is this information in fact adopted by the target groups? Under which prerequisites is health-promoting information processed? The objective of the project was to establish new and effective information paths in the health-care sector and to prepare them for usage. If up to now the existing and well-tried distribution paths (displays in pharmacies, doctors' practices, hospitals, health departments, health insurance companies, etc.) have always been relied upon without constantly evaluating what the provided information has in fact achieved, the time has now come to ascertain whether these messages considered to be necessary have also reached the people's minds. The district of Wesel therefore plans to carry out a new representative survey in the population about stroke knowledge and, based on the 2002 survey (T_0 survey), evaluate the effectiveness of the "Healthy Lower Rhine…against apoplexy" programme in general and more specifically in the presented pilot project "We style up your knowledge".

The results of the collected data will influence the further procedure of the 5-year stroke campaign of the Healthy Lower Rhine Network with regard to future priority issues.

Acknowledgements The authors would like to thank Klaus-Peter Neske, Senior Master Craftsman of the Hairdressers' Guild of the Wesel District in Xanten, for his cooperation and support of the project. Special thanks go to Mrs. Barbara Leifeld from Krefeld for drafting the quiz card and to Mrs. Rehkämper (LIGA NRW, Bielefeld) for translating the text into English.

Conflict of interest The authors disclose any relevant associations that might pose a conflict of interest.

References

Brand H, Schmacke N, Brand A (2003) Der öffentliche Gesundheitsdienst–Zukünftige Aufgabenbereiche des öffentlichen Gesundheitsdienstes. In: Schwartz FW, Badura B, Busse R et al (eds) Public health – Gesundheit und Gesundheitswesen. Urban & Fischer, Munich-Jena, pp 367–375

Hess PL, Reingold JS, Jones J et al (2007) Barbershops as hypertension detection, referral, and follow-up centers for black men. Hypertension 49(5):1040–1046

Kotler P, Roberto E (1989) Social marketing. Strategies for changing public behavior. The Free Press, New York, pp 20–23

Linnan LA, Kim AE, Wasilewski Y, Lee AM, Yang J, Solomon F (2001) Working with licensed cosmetologists to promote health: results from the North Carolina BEAUTY and Health Pilot Study. Prev Med 33(6):606–612

Murza G, Werse W, Brand H (2005) Ortsnahe Koordinierung der gesundheitlichen Versorgung in Nordrhein-Westfalen. Bundesgesundheitsbl-Gesundheitsforsch-Gesundheitsschutz 48:1162–1169

Naidoo J, Wills J (2003) Der Einsatz der Massenmedien in der Gesundheitsförderung. In: Bundeszentrale für gesundheitliche Aufklärung (ed) Lehrbuch der Gesundheitsförderung. Cologne pp 239-256

Pfeiffer H, Rau R, Mensing M, Schneitler H, Brand H (2006) Schlaganfall-Prävention: Identifizierung von Präventionspotenzialen durch Bevölkerungssurveys. Präv Gesundheitsf 1:99–107

Pott E: Strategien des sozialen Marketing. In: Schwartz FW, Badura B, Busse R et al (eds) Public Health–Gesundheit und Gesundheitswesen. Urban und Fischer, Munich–Jena pp 215-229

Rau R, Rumpeltin C (2003) Netzwerk Gesunder Niederrhein: Überregionale Schlaganfall-kampagne ab Mai 2003. Blickpunkt öffentliche Gesundheit 2:4–5

Rau R, Mensing M, Brand H (2006) Schlaganfall-Wissen der Bevölkerung: Survey im Kreis Wesel (2002). Bundesgesundheitsbl–Gesundheitsforsch–Gesundheitsschutz 49:450–458

Rau R, Otten K, Genz J, Geraedts M (2008) Evaluation des Public Health-Programms "Gesunder Niederrhein...gegen den Schlaganfall" durch Primärdaten aus Kliniken im Kreis Wesel-Vergleichende Studie von Stichprobendaten aus den Jahren 2003 und 2005. Med Klin 103:20–28

Solomon FM, Linnan LA, Wasilewski Y, Lee AM, Katz ML, Yang J (2004) Observational study in ten beauty salons: results informing development of the North Carolina BEAUTY and Health Project. Health Educ Behav 31(6):790–807